THE

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AND

ANNALS OF EDUCATION:

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NOTES ON THE ANTIQUITY OF THE MECHANICAL POWERS.

No. III.

THE first *water-mill* of which we have any record is noted by Strabo, and was connected with the palace of Mithridates the Great, a powerful king of Pontus, who reigned nearly two thousand years ago.

It is clear from the writings of Vitruvius, who flourished during the times of Julius Cæsar and Augustus, that water-mills were then used in Rome; and Antipater, a poet of that era, fancifully describes the wheel as being turned by the water-nymphs, who, gathering in wonder around the strange structure which had intruded upon their domain, and full of frolic and glee, leaped down in succession upon the floats of the wheel, and thus caused it to revolve.

Vitruvius thus explains the construction of the mill: "A cogged wheel, centered on the horizontal axis of the water-wheel, turned another cogged wheel centered on the vertical shaft of the upper mill-stone. The grain to be ground fell between the stones from a hopper fixed above." This mode of construction corresponds exactly with that adopted at the present day, when the horizontal wheel instead of the upright tub-wheel is employed.

Palladius, a Roman author, who wrote upon agriculture in the second century, A. D., in giving directions for the proper locations of the building of a Roman villa, thus observes: "If there is plenty

of water, the bakery ought to receive what comes from the bath, that, *water-mills* being there erected, corn may be ground without the labor of men or cattle." In Ireland, as appears from the Transactions of the Royal Irish Academy, water-mills were in use not far from the time of the Christian era.

When the Goths in the sixth century, A. D., besieged Rome, and were in possession of the public mills, Belisarius, the Roman general, erected floating mills upon the Tiber. Each end of the axle of the water-wheel rested upon a boat moored in the river, and the force of the current turned the wheel around. Ausonius, the most gifted poet of the fourth century, a native of Bordeaux, states that saw-mills were erected upon the stream falling into the Moselle, for the purpose of cutting marble into slabs. In regard to *wind-mills*, Pomponius Sabinus, a writer of the fifteenth century, asserts that they were known to the Romans; but no early Roman author has mentioned them. Some writers maintain that they were used in France in the sixth century; but Gibbon believes that they were introduced by the Crusaders into Europe from Asia, where, according to this historian, they were first invented. If this is correct, they could not have been known in Europe previously to the eleventh century, when the Crusades commenced. We know that they were employed on the Continent in the fourteenth century from an incident connected with the wars of France and England, for it is related that Edward the Third, at the famous battle of Cressy, ascended a wind-mill for the purpose of commanding a full view of the contest. That these European wind-mills were of powerful construction, is evident from the fact, that in a fair passage of arms, one of this race overthrew, at a single encounter, that redoubtable champion and mirror of chivalry—Don Quixote.

In the wide plains and Saharas of the East, exposed to the full rays of a burning sun, water is one of the most valuable necessaries of life. The crystal fountain, welling up cool and sparkling to the thirsty soil, is a priceless treasure; and the river, flowing on from town to town, and from village to village, comes like the blessing of God, crowning the land with plenty, and scattering joy and gladness along its pathway. Not only is a copious supply of water needed for domestic uses, but also for irrigation, which is the source of fertility to the soils of the East. If the Nile, swelled by the rains in the mountains of Lybia, pours not its enriching tide over the adjacent plains, wide-spread want and disease ensue; and the existence of myriads dwelling in the valley of the Ganges depends upon the in-

undation of the sacred river. With so much at stake, we should naturally suppose that the inhabitants of these arid regions would seek to raise, by artificial means, a full supply of the necessary elements; and, indeed, various agencies were employed for this purpose from the earliest periods. Sometimes the labor of slaves, at others that of cattle, as in India at the present day, was employed to draw water from wells, tanks and rivers for irrigation, and machinery was also erected for the same end.

It is singular that the Egyptians, for the most part, confined themselves to a very simple mode of raising water, although they required large quantities for their naturally thirsty soil. They used what Wilkinson learnedly terms the *shadoof*, which means nothing more than the bucket and sweep, such as can be seen at any old Puritan farm-house in New England, which, uncorrupted by modern innovation, is still guiltless of a rope and windlass. No mechanical advantage is gained by this arrangement, but a convenience is obtained in altering the direction of the power exerted, as it is preferable to pull down a weight equivalent to that of the water intended to be raised, than to draw up the water itself. The cheapness of manual labor probably caused the Egyptians to adopt this system of irrigation, for we can not believe so ingenious a people were ignorant of raising water by means of the wheel and axle, turned either by water power or cattle. That the latter agency was sometimes employed is evident from the testimony of the Greek geographer Strabo, who wrote in the first century of the Christian era. But whether the Persian wheel was used or not we are uninformed. It is not seen in the sculptures now extant in Egypt, but men are here represented drawing water with the sweep and bucket for irrigating the adjacent soil. Indeed, amid such a dense population as existed both in the Delta and in Upper Egypt, it was probably a matter of small importance to the landholders whether manual labor or mechanical power was directed to this end, so low must have been the rate of remuneration for services of this nature, or so trifling the expense of supporting slaves.

The Assyrians employed machines for raising water from rivers and canals for the purpose of irrigation—a fact clearly proved by the sculpture brought to light by the labors of Dr. Layard.

The Persian wheel to which allusion has been made, is the simplest, and, probably, one of the most ancient of hydraulic machines. At a very early period it was well known throughout all the East, where it exists at the present day, and I can not explain its construc-

tion and mode of operation better than by transcribing the graphic description of one of the missionaries of the American Board, who was for some time resident in Syria. Speaking of the city of Hamath, situated on the Orontes, Mr. Thomson remarks: "The town is well supplied with that standing representative of all comfort to an oriental—*water;* and the wheels by which it is raised to the upper parts of the city are the greatest curiosities to be seen in Hamath. Buckhardt says that the largest is seventy feet in diameter. The rim of this enormous wheel is one continued bucket, divided into partitions two or three feet apart. Through an aperture at the top of each partition the water enters as the wheel passes through the stream below, and when it is carried to the top it empties itself into a stone trough, and is conducted by lofty aqueducts to different parts of the city. Small paddles are fitted to the rim, and the force of the stream drives the wheel around. Thus a constant supply of water is lifted seventy feet high without any other expense than the wheel, and a low dam to turn the water upon it with greater power. These wheels are called 'Naoura,' and present a most picturesque appearance, while the loud groaning of their axles is heard at a great distance. I was informed by the governor, that within the limits of Hamath there are seventy of these Persian wheels kept in constant motion."

Simple wheels of this kind are used in our own country for the purpose of raising water from a running stream. There was one to be seen in Southington, of this state, a few years ago, engaged in the very questionable occupation of ministering to the wants of a distillery. The construction of this wheel differed from the one just described.

It was like a large wagon-wheel without the felloes, nearly twenty feet in diameter, and was driven by the stream acting upon floats fixed to the ends of the spokes. Inserted into the end of each spoke at right angles to the plane of the wheel was a wooden pin, perhaps a foot in length, and at the extremity of this was tied a small tin vessel, shaped like a powder canister. A trough was situated near the top of the wheel, at right angles, also, to its plane.

The tin buckets rising full as the wheel revolved, struck the edge of the trough at a little below the middle of their height. As the wheel continued to move, the buckets were tilted up more and more until they were completely emptied into the trough, when, swinging free, they passed down on the opposite side to be again filled and re-emptied.

J. B.

THE NEW YORK INDEPENDENT ON THE BIBLE IN SCHOOLS.

THE Independent, so ably conducted by Dr. Bacon and Mr. Thompson, contains in an editorial article on "Conscience and Majorities," (Feb. 23d,) the best statement we have seen of the way to settle the question between Protestants and Catholics, in regard to the Bible in the public schools. The following extracts will show the position of the Independent.

"Two capital mistakes are made in discussing the question of the use of the Bible in our common schools. The first is the assumption that our state and federal governments are *Protestant*, or that the STATE is Protestant, because a majority of the present inhabitants of the United States are Protestant. The state is Christian in its laws and institutions, but is not Protestant like England and Prussia, where Protestantism is the form of Christianity officially recognized by the state.

"The other mistake is to suppose that the Bible in King James' version, which is to us the revealed will of God, can not be conscientiously regarded by any as a sectarian book; and therefore that conscientious scruples against our common English version are entitled to no respect.

"There is great danger that, in overriding the consciences of Roman Catholics by the sheer force of the majority, we shall override the principles of religious freedom, and open the way for the tyranny of a Roman Catholic majority.

"The only safe and consistent ground for us, as Americans, in the matter of public education, is this: The state is bound to provide for the secular and rudimental education of its whole population, as a measure not of morals, nor of religion, but of self-preservation. If, with reading and writing and the common branches of secular knowledge, we can teach the Bible *without objection*, so much the better. But if objection is raised to any distinctive religious teaching in the common schools, we have no right to insist upon this by the force of the majority. This is unjust and impolitic. Unjust, because all have an equal right in the public school, and no bare majority should there insist upon a religious teaching that is contrary to the consciences of others. It is impolitic, because it drives from the school those who most need its benefits, and dooms them either to ignorance or to an intensely sectarian training."

The above is clear, fair, true, good law, good morality, good religion. Let us not forget that it is a leading object of the state to save us from ignorance, crime, barbarism, ruin. Let us remember that while we have other institutions for teaching religion and theology, *the common school is the only institution which can reach a large and increasing class, who, without it, would grow up as barbarians.* Let us not, by *insisting* on the Bible where objected to, increase this number of barbarians. Let us not, by narrow views, drive out of school into ignorance and crime those whom, by kindness, liberality and unsectarian education we can save, and whose salvation is of such vital importance to us as well as to them.

J. T. D.

EDUCATIONAL PERIODICALS.

THE following notice of the various Educational Journals which have been published in this country, may be useful to those who are investigating the history of education.

1826.

THE AMERICAN JOURNAL OF EDUCATION, Boston.

Published monthly in numbers of sixty-four pages octavo. Commenced in 1826, and merged in the Annals of Education in 1831. The set consists of five volumes.

1831.

AMERICAN ANNALS OF EDUCATION AND INSTRUCTION, Boston.

Commenced in 1831, and discontinued at the close of 1839. The set embraces nine volumes. It was edited at different periods by William Russell, W. C. Woodbridge, Dr. Alcott, and other able writers on education.

1835.

THE MONTHLY JOURNAL OF EDUCATION, Philadelphia, 1835.

Edited by E. C. Wines. Commenced January, 1835, and was discontinued in the course of the year.

1836.

THE SCHOOLMASTER AND ADVOCATE OF EDUCATION.

Published by W. Marshall & Co., Philadelphia, and edited by J. Frost. Commenced in January, 1836, and discontinued at the close of the year.

THE COMMON SCHOOL ASSISTANT, Albany and New York.

Edited by J. Orville Taylor. Commenced in January, 1836, and discontinued in 1840.

This cheap periodical was widely and powerfully instrumental in waking up a lively interest in the subject of common school improvement.

1838.

THE OHIO COMMON SCHOOL DIRECTOR, Columbus, Ohio.

Published by authority of the General Assembly of Ohio, and edited by Samuel Lewis, Superintendent of Common Schools.

The Director was commenced in March, 1838, and was discontinued in November, 1838. It was the first periodical established under State authority, and was highly useful in organizing the new system of Common Schools established in the winter of 1838.

JOURNAL OF EDUCATION, Detroit, Michigan.

Edited by John D. Pierce, Superintendent of Public Instruction. Commenced in March, 1838, and discontinued in February, 1840.

THE CONNECTICUT COMMON SCHOOL JOURNAL, Hartford, Conn.

Published and edited by Henry Barnard, Secretary of the Board. Commenced August, 1838, and discontinued in September, 1842. Recommenced by Mr. Barnard in 1850, and conducted by him until January, 1854, when it passed into the hands of the Connecticut State Teachers' Association, and is now issued monthly under their conduct. Price, $1.00 a year.

1839.

THE EDUCATOR, Easton, Pennsylvania.

Edited by Robert Cunningham; then a Professor in Lafayette College, Easton, and now the Principal or Rector of the Normal School of Glasgow, Scotland. The Educator commenced in April, and discontinued in August, 1839.

JOURNAL OF RELIGIOUS EDUCATION AND FAMILY AND SUNDAY-SCHOOL VISITOR.

Published by the General Protestant Episcopal Sunday-School Union, at New York, and edited by Rev. Benjamin O. Peers and Benjamin Haight. Monthly, commencing January, 1839. In January, 1840, its name was changed to

JOURNAL OF CHRISTIAN EDUCATION AND FAMILY AND SUNDAY-SCHOOL VISITOR.

Rev. Mr. Peers died in 1842. The Journal was semi-monthly in and after January, 1843.

1840.

THE DISTRICT SCHOOL JOURNAL FOR THE STATE OF NEW YORK.

Published monthly under the patronage of the State, at Albany, and edited by Francis Dwight, Superintendent of Common Schools for the county of Albany. Price, fifty cents a year.

This Journal was commenced by Mr. Dwight, at Geneva, in March, 1840. Under the authority of an act passed in May, 1841, the Superintendent of Common Schools subscribed for a sufficient number of copies (ten thousand and eight hundred) to supply each organized school district in the State, and made it his official organ of communication with the officers and inhabitants of the several districts. The publication office was removed from Geneva to Albany in June, 1841, where it is now printed by C. Van Benthuysen.

THE COMMON SCHOOL JOURNAL, Boston.

Edited by Horace Mann, Secretary of the Board of Education for Massachusetts.

This Journal was commenced in November, 1838, and embraces all the official documents of the Board of Education, and their Secretary, to 1849.

1841.

ILLINOIS COMMON SCHOOL ADVOCATE, Springfield, Illinois.

Commenced May, 1841, and discontinued with the sixth number.

1844.

THE COMMON SCHOOL JOURNAL OF THE STATE OF PENN.

Edited by John S. Hart. One volume for 1844, commencing with January. Monthly. Philadelphia: E. C. Biddle.

1845.

THE TEACHERS' ADVOCATE.

Established September, 1845, by the New York State Teachers' Association, as a weekly, under editorship of Edward Cooper, and published at Syracuse, N. Y. In June, 1847, its name was changed to Teachers' Advocate and Journal of Education.

Mr. Joseph McKeen now became editor and publisher, as President of the State Teachers' Association. Messrs. J. N. McElligott, S. S. Randall and others, were at different times editorially connected with the paper. In and after September, 1847, it was issued fortnightly instead of weekly. In November, 1849, its name was again changed to Journal of Education and Teachers' Advocate.

JOURNAL OF THE RHODE ISLAND INSTITUTE OF INSTRUCTION.

In three volumes, from November, 1845, to January, 1849, was published by the Institute, and edited by Henry Barnard, Commissioner of Public Schools of Rhode Island. It includes several educational documents of great and permanent value; among which may be named the Report of the Commissioner for 1845, in which the history of the legislation of Rhode Island respecting education is traced, and the measures adopted to bring about a thorough change of public sentiment in every town in the state described, a documentary history of the Public Schools of Providence, and the Catalogue of the Pawcatuck Library.

1846.

PRACTICAL EDUCATOR AND JOURNAL OF HEALTH.

Edited by William W. Cornell, M. D., and published monthly, at $1.00 a year. Commenced January, 1846. Boston.

THE OHIO SCHOOL JOURNAL.

Edited by Asa M. Lord, M. D. Monthly. Commenced in January, 1846, at Kirtland, Lake County, Ohio, where the first volume, for 1846, was issued. The next three volumes, for 1847, '48 and '49, were published at Columbus, Ohio. At this time it was united with The School Friend, which was published at Cincinnati.

ESSEX COUNTY CONSTELLATION.

Edited by an association of gentlemen. Weekly. Commenced July, 1846. Newburyport and Salem.

THE SCHOOL FRIEND.

Begun October, 1846. Monthly. "Sent, free of charge, to teachers, school officers and clergymen in the West and South." Cincinnati: W. B. Smith & Co.

COMMON SCHOOL ADVOCATE.

Edited by H. F. West, and published half monthly at Indianapolis, Ia. Begun October, 1846, and discontinued September, 1847.

THE STUDENT AND YOUNG TUTOR.

Commenced November, 1846. Monthly. Edited through fourth volume by J. S. Denman, and afterward by him and N. A. Calkins. New York.

1847.

CONNECTICUT SCHOOL MANUAL.

Edited by Rev. Merrill Richardson. Commenced January, 1847,

and isssued monthly, at fifty cents a year, until discontinued December, 1848. Hartford: Case, Tiffany & Co.

MICHIGAN SCHOOL JOURNAL.

Edited by M. M. Baldwin, and commenced January, 1847. Monthly. Became the organ of the State Educational Society, in August of the same year. Jackson, Mich.

THE AMERICAN JOURNAL OF EDUCATION.

Edited by Joseph McKeen. Monthly; $2.00 a year. New York. Commenced February, 1847, and discontinued after the fourth number, for May, 1847, upon Mr. McKeen's assuming the editorship of the Teachers' Advocate.

WESTERN SCHOOL JOURNAL.

Published monthly, and "sent without charge to teachers, school officers, and others actually engaged in furthering the progress of education." Cincinnati: W. H. Moore & Co. Commenced March, 1847.

THE SCHOOL JOURNAL AND VERMONT AGRICULTURIST.

Published monthly by Bishop & Tracy, Windsor, Vt. Commenced May, 1847, and discontinued after April, 1850.

WRIGHT'S PAPER.

Edited and published monthly by A. E. Wright, at twenty-five cents a year, at Philadelphia. Commenced July, 1847.

THE RADIX, OR VIRGINIA PUBLIC SCHOOL ADVOCATE.

Edited by S. A. Jewett and S. S. Randall. Monthly, at Richmond, Va., commencing November, 1847. After November, 1848, it was united with the Southern Journal of Education.

NORTH-WESTERN EEUCATOR.

Edited by J. L. Enor. Monthly, at Chicago, Ill, commencing November, 1847.

1848.

THE MASSACHUSETTS TEACHER.

Edited by a committee of the Massachusetts Teachers' Association. Commenced January, 1848. Monthly, $1.00 a year in advance, or $1.50 in arrear. Boston: Samuel Cooledge.

THE MAINE COMMON SCHOOL ADVOCATE.

Edited by William G. Crosby, Secretary of the Board of Education for Maine. Commenced May, 1848. Semi-monthly. Belfast, Maine.

1849.

RHODE ISLAND PRACTICAL TEACHER.

Edited by W. S. Baker, assisted by an association of practical teachers. Commenced January, 1849. Weekly. One dollar a year. Providence, R. I.

THE SOUTHERN JOURNAL OF EDUCATION.

Edited by Samuel A. Jewett, assisted by S. S. Randall and Prof. William H. McGuffey. Commenced January, 1849. Monthly. Knoxville, Tenn.

1850.

THE OHIO TEACHER.

Edited by Thomas Rainey. Monthly, at Cincinnati, Columbus and Cleveland, from May, 1850, to January, 1852. Its name was then changed to The Western Review.

THE PENNSYLVANIA TEACHERS' MAGAZINE AND FAMILY MONITOR.

Edited by Rev. J. J. Buchanan, and published monthly at Pittsburg, Pa., from November, 1850, to October, 1851, when it became The Family Monitor and Teacher's Journal.

1851.

THE PUBLIC SCHOOL ADVOCATE AND HIGH SCHOOL MAGAZINE.

Edited by Asa D. Lord, M. D., Superintendent of Public Schools of Columbus, Ohio. Commenced January, 1851. Monthly. Columbus, Ohio.

THE FAMILY MONITOR AND TEACHER'S JOURNAL.

Edited by Rev. J. J. Buchanan, Pittsburg, Pa. Monthly. Commenced October, 1851.

(See The Pennsylvania Teachers' Magazine and Family Monitor.)

1852.

THE RHODE ISLAND EDUCATIONAL MAGAZINE.

Edited by E. R. Potter, Commissioner of Public Schools in Rhode Island. Commenced January, 1852. Monthly. Fifty cents a year. Providence: Sayles & Miller.

THE PENNSYLVANIA SCHOOL JOURNAL.

Edited by Thomas H. Burrows. First published January, 1852, as "The School Journal." Monthly. One dollar a year. Lancaster, Pa.

AMERICAN EDUCATIONIST AND WESTERN SCHOOL JOURNAL.

Edited by B. Kerr Maltby and Albert D. Wright. Commenced January, 1852. Cleveland, Ohio.

OHIO JOURNAL OF EDUCATION.

Published monthly by the Ohio State Teachers' Association, and edited by their appointees. Commenced January, 1852. One dollar a year. Columbus, Ohio.

THE WESTERN REVIEW.

Edited by Thomas Rainey. Commenced January, 1852. Monthly. Cincinnati, Ohio. (See The Ohio Teacher.)

THE NEW YORK TEACHER.

Edited by appointees of the New York State Teachers' Association. Commenced October, 1852. Monthly. $1.00 a year. Albany: Joel Munsell.

THE GENIUS OF LIBERTY.

Edited by Elizabeth A. Aldrich. Commenced October, 1852. Cincinnati, Ohio. Monthly. $1.00 a year.

1853.

THE SOUTHERN SCHOOL JOURNAL.

Now edited by Rev. E. H. Myers. Commenced January, 1853. Monthly. $1.00 a year. Columbus, Ga.

DISTRICT SCHOOL JOURNAL OF EDUCATION OF THE STATE OF IOWA.

Edited by R. R. Gilbert. Commenced January, 1853. $1.00 a year. Dubuque, Iowa: R. Spaulding.

THE SELF-INSTRUCTOR.

Edited by Richard W. Habersham. Begun November, 1853. Monthly. $2.00 a year. Charleston, S. C.

1854.

SCHUYLKILL COUNTY SCHOOL JOURNAL.

Edited by teachers in the public schools. Commenced January, 1854. Monthly. Fifty cents a year. Pottsville, Penn.

THE MICHIGAN JOURNAL OF EDUCATION AND TEACHERS' MAGAZINE.

Edited by appointees of Michigan State Teachers' Association. Commenced January, 1854. Monthly. $1.00 a year. Detroit, Michigan.

INTRODUCTION TO THE STUDY OF NATURAL HISTORY.

BY J. L. COMSTOCK, M. D.

No. II.—*Divisions of the Animal Kingdom.*

As already stated, the science of Zoölogy embraces the descriptions of a vast number of living existences, many of which are so different from each other that they have nothing in common except animal life. In other terms they are all *living*, and, generally, *moving* creatures.

Now in order to distinguish these animals from each other, which is the grand object of this science, it is necessary to divide them into classes and families, according to their affinities or resemblances to each other in their most important organs.

Without such divisions each animal could be known by the individual description of itself only, and without reference to the others. Thus each and every bird and quadruped would require a distinct and minute description of all its parts, in order to be identified. But, by scientific classification, this exact description, except of peculiar parts, is entirely avoided, each group or family consisting only of such individuals as possess organs nearly resembling each other: thus a single description of the parts on which the arrangement depends applies to the whole group. As an example, the *birds* are a class of animals having two legs, back-bones, warm blood, and a covering of feathers. This short description, while it includes all birds, excludes every other animal.

But this description, though sufficient for the entire class, does not distinguish the individuals or even families from each other, and therefore several subdivisions of the class become necessary. The first and most general of these are called *orders;* and nearly all systematic writers on Ornithology have founded them on the bills and feet. The orders of Linnæus, the father of Zoölogy, depend entirely on these parts.

We will give a few examples of this method, in order to show how readily it can be understood and illustrated. Thus, if we take the order Accipitres, which includes the birds of prey, we shall find that they are remarkably distinguished from all the other birds by their short legs, the toes being armed with long, sharp, curved talons—the bills being also strong and curved to correspond. These birds are all carnivorous, or flesh-eaters, and hence the necessity of their sharp claws, with which to seize and retain their prey, and

their strong bills by which it is divided. Deprived of these arms, the whole order would perish from starvation, since they are incapable of subsisting on any other food but flesh.

But as there are several groups of birds which have hooked bills and sharp claws, but among which there are material differences in many other respects, a division of these into genera, or families, is required, though belonging to the same order, and, accordingly, they are separated into the eagles, hawks and vultures, each family having peculiarities of their own.

The aquatic, or water birds, consist of two orders, the waders and swimmers; and here, again, we can not but observe a striking adaptation of the organs with which they are provided to their means of subsistence. The waders have long legs, and equally long necks to correspond. They subsist by catching small shell-fish and insects in shallow water along the sea-shore, and the estuaries of rivers, the stilt-like legs of some, as the cranes, enabling them to wade where the water is two or three feet deep. We see, therefore, the necessity of a correspondence between their legs and neck, as they must reach the bottom to obtain their food. The swimmers, on the contrary, have short legs and webbed feet, with necks of moderate length. All this family are expert swimmers and divers, their widely expanded feet and short legs giving them the power of passing through the water, whether on, or under the surface, with wonderful facility and quickness. These obtain their food chiefly by diving to the bottom, which some of them do where the water is many fathoms deep. The facility with which geese and ducks swim and dive, which all have observed, is sufficient proof of the adaptation of their forms and organs to their modes of existence.

In the Picus, or woodpecker family, with some species of which we are all acquainted, we may, if possible, observe still more striking and peculiar conveniences of organization to their modes of existence, and especially in the disposition of their toes, and the peculiarity of their tongues.

In all other birds, three of the four toes are directed forward and one backward. But in this family these parts are equally divided, two extending forward and two backward, and hence the surprising facility with which these birds run up and down the sides of trees, performing equally well whether their heads are above or below their feet. This adaptation of the feet to the singular habits of this species would indicate, by analogy, an equal peculiarity in the mechanism of the bill, and we accordingly find that, in this respect, this bird differs from all others.

The woodpeckers live on worms and insects, which they obtain from under the bark or in the wood of decaying trees, and which some of the species excavate for this purpose, while others perform the same task in order to make a sure place for their eggs.

Now to enable these birds to excavate a solid oak, first to the heart and then two or three feet deep, and which no other animal with natural instruments can do, we find that their bills are composed of a hard substance like ivory, and that their heads are heavy with solid bone, acting on their bills like hammers. Thus, by examination of the organs of the birds, we are able to explain the reason why they so readily peck holes into the hardest timber.

In addition to the peculiarities already noticed, the woodpeckers are provided with long flexible and sharp tongues, which are barbed on each side, and by means of which they transfix and draw out their food an inch or two beyond their bills.

When, therefore, we see the little downy woodpecker so busily engaged about the trunks of trees in the winter, we may know that his object is to seek out the worms and insects from under the bark, and therefore that he is doing good by destroying the larvæ of caterpillars which would, otherwise, hatch out in the spring, and perhaps destroy our fruit.

But, in addition to these examples of the more obnoxious and peculiar adaptation of the organs of birds to their modes of existence, it is proper to add some notices of the more common species, in order to direct the attention of the inquirer to their habits, manners, and mode of architecture.

[For the Conn. Common School Journal.]

THE CONTRAST.

In a school-room, small and low,
This the way the minutes go—
If you farther wish to know,
Call, and *facts* will plainly show:
Eyelids drooping,
Figures stooping;
Classes listless,
Scholars restless,
Teacher weary,
School-room dreary,

Looking sadly,
Lessons badly;
Many sighing,
Some are crying;
Others idling,
Sitting sideling,
Left their seat
To pinch or beat;
Study loudly,
Answer proudly;
Circumvention
Claims attention;
Air is horrid,
Faces florid;
Learning never,
Sickness ever:
Brooding over such a place;
O Connecticut, my state!
Rouse thee from thy downward fate,
Wipe away thy dark disgrace.

THE PICTURE REVERSED.

To a school-room, large and airy,
Hastens many a little fairy;
Flowers are blooming all around,
Wide and smooth the green play-ground,
Boughs are waving in the breeze,
Birds are singing in the trees,
Sunlight streaming gaily over
Fields of waving grain and clover;
Some are shouting, some are singing,
Till the clear-toned school-bell ringing,
Calls them from their happy play
To the labors of the day.

Sunny locks and rosy faces,
Wearing childhood's thousand graces,
Bow in solemn stillness there
While they lisp their morning prayer;
And each sparkling eye is hid
By its fringed and drooping lid.
Softly falls, with holy seeming,
Love, from realms of glory streaming,
While each spirit eye is open
To behold some heavenly token

Of a blessing on the hours
They shall spend in Learning's bowers.

Happy seems each little creature,
Happy, too, their smiling teacher,
While, 'mid truth, and bloom, and song,
Glide the rapid hours along;
Those young hearts are learning well
Virtue's most enchanting spell;
Souls to holier life are bounding
By the influences surrounding;
Spirits plume their new-fledged pinions
For a holier home's dominions,
And in Wisdom's *pleasant* ways
Fleets the morning of their days.

March 27th, 1854.

ANOTHER REQUISITE.

THOUGH not at present a resident of Connecticut, yet, inasmuch as it is my own native state, I can but look upon the efforts made for the improvement of schools with feelings of deep interest. It gives me great pleasure to hear of the advancement already made, and in anticipation I look forward to the time when Connecticut will stand where she may—first among her sister states.

After reading in the last number of the Journal an article entitled "Requisites of a Good Teacher," a thought came to my mind, which I will briefly present.

Several years have passed since I was a school-boy, yet I well remember a remark made by a pious old lady, now gone to rest, respecting my teacher. Said she, "He lacks one thing." It was the good part which Mary had chosen.

The same truth may be spoken of many who are engaged in instructing the young. As teachers, we have something to do with the physical training of those committed to our care; but our principal labor is for that part whose existence is to run parallel with its Creator; and the character which is formed here will go into eternity, and decide the future condition of the soul. This fact renders the position of a teacher truly responsible. He holds, or may hold, to a great degree, the minds of his pupils; he can influence them in various

directions, and that influence will have a great bearing upon their future lives.

Hence, a *love for souls* may be said to be another requisite of a good teacher. We are not only responsible for the evil we do, but also for neglecting to exert a salutary influence where we might. No occupation, perhaps, save that of the ministry, affords a more advantageous field of labor than that of the teacher. He daily comes in contact with souls which need to be fed with spiritual food. He has a personal, individual work to do, and how can he do it if he himself has not been taught in the school of Christ? He has opportunities for knowing the thoughts and feelings of his pupils, and these opportunities he should improve; and if his soul is filled with love to his great Teacher, he will do so. He will be anxious not only to impart that knowledge which will be of great advantage in the present life, but also that which will fit the immortal part for the life which is beyond this.

Fellow-teacher, hast thou ever thought that when myriads and myriads of ages shall have passed away, some of those dear ones who have been committed to thy care will look back to earth from the world of lost spirits, and think of thee as instrumental in educating them for that abode of despair? While on the other hand, how delightful the thought to know that we were the means, in the hands of God, of inducing many to enter the way of wisdom, leading to the portals of eternal happiness. E. T.

TAXATION FOR THE SUPPORT OF SCHOOLS.

BY HON. ALFRED HALL.

No. 2.

THUS far we have suggested, 1. That the school fund of Connecticut has operated as a plea in bar against taxation.

2. That before 1798, with less parade or show, our grandfathers actually used and enjoyed a much better fund, to be found in their *grand list.*

3. That the *right to educate,* formerly held and exercised by *towns as such,* is now devolved upon *special corporations,* constituted from the inhabitants of given territorial limits, and having regard only to the ancient *ecclesiastical,* and not to any modern *political* organization.

And we have taken the liberty to intimate the "one thing needful," viz., *To give back to towns, as such, the right to educate*, the absolute, inherent and precious *right to educate*—a right of which they have been deprived.

This legislation now called for is imperiously demanded by every consideration of justice and of right which can be presented to an intelligent and republican people. The restitution demanded is proper to be made by the law-makers unto a people whose past history shows no abuse of such a right. It is a restitution, moreover, proper to be made by the present generation as a fit atonement for errors perpetrated in the generation of our fathers, under the existence and operation of which errors our schools have languished, and instead of being the glory of the *state*, have become the beneficiaries of the meager dividends of its school fund.

The time was when our schools were flourishing, and maintained a standard higher than any other state. Planted in good, luxuriant soil, they took root downward and bore fruit upward, and the branches have reached states on the right hand and on the left, while yet for fifty years the original root has been in process of decay. The school system of the state finds its fit emblem in her venerable oak, revered in its decay, and propped up in all its decrepitude, because it once sheltered and preserved the "charter" of its liberties. Unlike the oak, however, which may not be again revived, the former vigor may return to our school system. Restore to *towns, as such*, their *right to educate*, and the efficacy of our schools will then be in direct proportion to the zeal, the energy, and the *money* of our *townsmen*. The vitality of a town-meeting will be substituted for the deadness of the school society or district-meeting. The efforts now made to obtain good schools, the onward march even now amidst the impediments of law, and the stumbling-blocks of *political* indifference, are a sure guarantee of the lively and life-giving interest—the anxious solicitude of our intelligent people in the cause of education.

What is the true secret of so little real advance for the last fifty years in the public schools of Connecticut? I answer. It is found in the absence of the very name of school, of education, or of any interests or matters therewith connected, from the other public interests of our busy-minded, sagacious people.

You go to town-meeting to arrange public business—highways for instance—to make and mend, or mar, to divide into highway districts, to repair or waste, as may seem fit to the sovereign people in the due exercise of their rights; you can state your grievances of

any sort, speak outright or grumble low. If defeated once, may rally and try again. Again defeated, may grumble again, until, perhaps, the grumblers become the better sort, when, with the majority, all goes right again. If one method works wrong, another is tried, until experience soon teaches the lessons of wisdom. Or, better still, you get up a "committee to report, at an adjourned meeting," upon the interests and matters for adjustment, and anon no vexed questions, no subtle point, no complicated mixing up of contrarieties, but a Yankee town-meeting report can manage to set all right, and give universal satisfaction for the time being. But upon school interests what is to be done? Do you go to school-district meetings? Why yes, you say; or, if advanced in life, you reply, that some ten or twenty years ago you did participate in the transactions of such meetings. At the annual meeting a committee is appointed, and the honored individuals so appointed, if present, respectfully decline, or, if absent, as is usually the case, are allowed to go through the year the best way they can, and meet the bills as best they know how—and that is, generally, to foot the deficiency themselves.

Do you go to school society meetings? Oh! yes, to be sure, I have a right there; that is the proper place to do school business in Connecticut. School societies are like grave-yards, both remarkable for silence—a lesson useful to be taught. A committee for drawing money from the state, and a committee to draw out the qualifications of teachers and to visit schools, *according to law*, are here appointed. And what more? And how many attend these highly useful meetings?

I can not refrain from appending to my remarks in this number an extract from the Fifth Report of the Hon. Henry Barnard, as Superintendent of Common Schools, made to the General Assembly in May, 1850, in which this subject is exhausted with the ability and talent which he has devoted for a lifetime to the cause of education. This extract is the more readily offered here, without any apology to your readers for its length, not only because it better elucidates the point than I could myself do, but also because it enables me to offer my own acknowledgments to that gentleman for many valuable ideas on the subject of common schools, and, at the same time, to refer your readers to the public documents which have emanated from that source.

As to the practical operation of the school society organization, he thus remarks: "The school societies not being obliged or expected to transact any business, except to appoint officers and take care of

the burying-grounds, (which is, literally, the dead taking care of the dead,) as no school-houses are to be built, or teachers employed, or taxes laid for any purpose, the annual meeting, which, in most societies, is the only meeting held in the year, is always thinly attended. During the past year, in several of the largest societies, which send, on an average, three hundred voters to a town-meeting, not ten persons were present, and of these a majority were school officers. In many instances which have come to my knowledge, there were just enough present to officer the meeting and bring forward the business. At these meetings the acting school visitors are required, by law, to present a report as to their doings, and the condition and improvement of the schools. But to what purpose? The report is not read, or if read there are neither teachers or parents, or district officers present to profit by its exposure of evils, or suggestions of improvement. In only three instances was a document of this kind printed for circulation in the society or among the districts, for whose benefit it was prepared. This want of knowledge as to the condition of the schools; *this severance of the school interest from the other great interests of the town*, combined with our mode of supporting the same, has led to that deep and wide-spread apathy, which has been before referred to as the principal hindrance to educational improvement. The state of things would be far different if the entire management of the schools devolved on the towns, and questions affecting their improvement could come up for discussion at the regular town meeting. Then, at least, there would be an audience, and the advocates for better houses and better teachers would make themselves heard and felt. If appropriations were needed to increase the number or prolong the term of the schools, or furnish the poor children with books, there would be far less difficulty than now in obtaining a grant, by simply moving an addition to the regular town tax. Avarice, ignorance, indifference and aristocratic pretensions would, as now, be opposed to all liberal propositions; but these motives would be likely to be rebuked, exposed and overruled on a full hearing of the merits of the case."

Texas.—The Governor of Texas recommends that $2,000,000 of dollars be appropriated to the support of common schools, $250,000 for the foundation of a state university, $250,000 for an insane asylum, and $250,000 for an asylum for the education of the deaf and dumb.

A DEFECT IN TEXT-BOOKS ON NATURAL PHILOSOPHY.

THE phenomena of light are explained by philosophers according to one of two theories.* These are termed the *material* and the *wave theories.* In the former, vision is supposed to be produced by the actual tranmission of material particles from the luminous body to the eye.

Thus, when we see a star, we perceive it because particles of light have actually passed from the star to our eye, and struck upon the sensitive nerves forming the retina.

In the wave theory it is assumed that there exists an elastic medium of extreme tenuity, called *ether.* This ether, it is supposed, permeates all bodies, and is diffused throughout space. A luminous body throws this ethereal medium into a state of undulation, and the waves of the latter being propagated from the luminous body to the eye, the motions which they communicate to the nerves that compose the retina cause the sensation of sight.

In the same way the undulations of the air, falling upon the nerves of the ear, produce the sensation of hearing.

In accordance with the principles of this theory, the color of light is determined by the time employed in producing a wave in the ether. Just as in the case of sound, the tone is determined by the time of the vibrations of the particles of air. Thus a red light causes the ether to undulate about one-fifth slower than a violet light. In like manner the waves of air that produce a certain note are made in twice the time as those that give the octave.

It is not my intention to discuss these theories at length, but simply to mention them for a particular purpose.

The varied phenomena of light have received a better and more satisfactory explanation upon the principles of the wave theory, than upon the other. Indeed, there are many phenomena which can not be well explained, if explained at all, consistently with the doctrine of the materiality of light. For these reasons we find that most of the distinguished opticians of the present day are advocates of the wave theory. At the suggestion of the learned Arago, an experiment was tried at Paris, about three years ago, which was regarded as proving conclusively, that the wave theory was true and the material false.

The undulatory theory is by no means a new one. It is explained

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*There is a third theory, originated by Goethe, but which has never prevailed to any extent.

more or less in every *extended* treatise on optics, and in the text-books used in our higher seminaries of learning, but it is almost entirely ignored in our academies and popular schools. Among all our text-books on Natural Philosophy for the use of schools, I have met with only one where the wave theory is mentioned. This is not as it should be. The text-books of our schools ought not to be behind those of our colleges, and their authors should keep up with the progress of science.

The absence of the wave theory must be regarded as a defect, since this theory as beautifully explains the phenomena of light, as does the received theory of acoustics the phenomena of sound.

Prof. Bartlett, of West Point, in a late work on acoustics and optics, thus speaks: "We *see* by a principle in every respect analogous to that by which we hear, the only difference being in the nature of the medium employed to impress upon us the motions proper to excite these different kinds of sensations. In the former case it is the ether agitating the nerves of the *eye;* in the latter the air communicating its vibrations to the nerves of the *ear.*"

If the above remarks are true—and who can doubt them, coming from such a source?—we can not avoid the conclusion, that most of our school-books which treat of optics are defective in this particular.

J. B.

EDITORIAL BREVITIES.

We are happy to see that our friends in New Jersey are coming up to the work of providing for good public schools. All honor to the county (Somerset) that has inaugurated that most needed and efficient instrumentality in arousing and enlightening the public—a county association of teachers. We are satisfied that an institute, like that held last August in Millstone, held annually in each county, or in half of the counties of New Jersey, for four years, would elevate the schools of the state in every respect. Teachers, by their increased skill and success, would increase the attendance and raise the scholarship of the schools; and it is almost superfluous to add they will in the same ratio advance their own salaries.

The following statistics of attendance in the schools of New Jersey for the year 1853, indicate the need of earnest labors for the schools. Of 162,000 children, between five and eighteen years of

age, only 13,000 are reported as in attendance during the entire school year; while the whole number registered as attending any portion of the year was only, in round numbers, 97,000. This is a very low attendance, yet it is gratifying to learn from the last report of the superintendent, that it is a very considerable increase over the attendance of last year.

In support of these schools, about $325,000 were expended, which is some over $50,000 more than was expended last year. H.

COTHREN'S HISTORY OF ANCIENT WOODBURY.

We do not propose a review of this work. It is, on many accounts, a production of merit, and we shall deem ourselves fortunate when we can study the history of every similar section of the state, drawn out with similar fullness and accuracy.

For two reasons we think this and similar works worthy the notice of teachers in Connecticut. They need just that minute acquaintance with the history of the towns in which they teach, which can be found in no other works. Such a fund of incidents and anecdote would give them, often, almost electric power over the drowsiest intellects of their schools. From such a fund, they could diffuse among the young that knowledge of our fathers which furnishes the safest model, as also the most eloquent plea for a life of strict integrity and of beneficent goodness.

But, secondly, such works furnish the teacher a very desirable stimulant to personal investigations of local history. No class of men are so favorably situated for collecting the materials of a town history as the school-teacher. Each member of his school would be proud to furnish him with some fact in biography connected with his own family history, or some important event in his section of the town. And still more, he has a ready access to all the old men of his district, who would love to communicate to him whatever their memories of the past could contribute to the object of his search. And while the teacher should be engaged in this very investigation, he would ordinarily be doing the very best thing in his power toward promoting the inquisitiveness and intelligence of his pupils, and securing the attention and favor of their parents and friends: two considerations which no teacher is at liberty to disregard or slight.

H.

A TALK ABOUT GEOGRAPHY.

"How do you teach Geography?" "Oh! I don't know. I can't teach it *well;* it is the most difficult, unsatisfactory thing I undertake to do."

Is not this the experience of more than one teacher? Arithmetic is so sure, its principles so true to each other; one can always be thorough and systematic in that. Grammar seems to go on smoothly enough; the verbs and nouns all agree; the sun shines on the grammar lesson. But the Geography; there is a cloud.

Where is the fault? Is it in the subject itself? *Is* Geography the *dry study* so many call it? Let us see. What *is* Geography? "A description of the earth," chatters one of the thousand parrots, that "say the lesson" daily in all confidence. Is that all? Do those words convey no great and wide meaning to the mind of the child whose lips utter them? Does he see that to *describe the earth* is to make it a *real, familiar* place to him? not a ball eight thousand miles in diameter merely, but the *home he lives in?*

Why, there are broad oceans, with islands in them—islands thrown up from the sea, or built by tiny insects; islands with burning mountains and shining rivers; and in the waters are forms of animal life as wonderful as those on the land. Mighty currents, too, are sweeping through the deep, and tides are ever surging on the shores.

There are far-stretching continents, girded with long ranges of mountains, thrown rudely up, yet following a great law; or, spread into wide plains, some rich and fertile, some bleak and desolate, highland and lowland and valley; each with its mineral treasures, each peopled with its own peculiar and approximate vegetable and animal existences, of themselves a life-study. There are rivers, fertilizing vast regions in their course, and bearing on their bosoms the gathered wealth of prosperous nations. Lakes, like seas, fresh, salt, elevated, sunken—some mysteriously retaining all the gifts of their tributaries, some pouring their surplus waters in hurrying torrents to the parent ocean; vapors, that silently ascend to fall in refreshing rain; evening-distilled dews; winds that blow, heat that scorches, and cold that congeals.

And there are men; men crowned and chained; of every station, color and degree, with various and wonderful powers. There are empires and states these men have made and scattered; cities and pyramids they have builded; nameless religions, numberless governments and manifold employments, with which their hearts and heads and hands are busy: is here nothing to study? Call *this dry?*

Or is it the text-books that trouble you? Are they not only as various as your numerous pupils, but also antiquated, superannuated, worn out in the service, at best but a meager rehearsal of "surface, soil and climate?" Were the maps engraved for the last half-century instead of this? before people enlarged their dominions, and shifted their capitals, without inquiring whether the news of the last change is yet fully abroad?

True, these are evils. The best text-books are desirable; but if these are wanting must you *utterly* fail?

The oceans still sweep up on the shores of the continents in nearly the same form that your old map indicates; mountain chains rise where they rose fifty years ago, and rivers, for the most part, still roll to the sea in their accustomed channels. Bare facts of soil and climate can be so woven together and applied, as to lose much of their repulsive character. Are there no outline maps? Buy one. If not, *make* one: the thing is possible: charcoal is cheap; so is coarse white paper, or coarser cotton cloth. No Globes? There are fair round apples in the cellars of your patrons, or at least, well grown turnips, and these humble vegetables have more than once, in the history of school teaching, been honored with the title, "Terrestrial Globes."

Or may be it is your dull, stupid scholars, who will not learn Geography? It is hardly reasonable to conclude that the young have an innate antipathy to the study, for little children usually have minds especially adapted to receive that kind of knowledge which Geography presents, knowledge, that, in its elements, can be made so lively and story-like, and can be so aptly illustrated by the visible forms around us. And older pupils are surely not often so dull or so reckless, as to be utterly blind to the world they live in. An interest in the subject once awakened, it will be found hard to put it slumbering again.

The fault can not usually be laid at the door of the parents or school committee. Their *immediate* sphere of action is not within the school-room, in the Geography class; at least, they would hardly be willing to bear the responsibility of failure there.

The difficulty seems to come back upon the teacher. And is not the greatest source of evil here, with us—*teachers?*

If some of us, in our hearts, feel that of all the branches we have occasion to teach, Geography is the most uninteresting, and most unsuccessfully taught to our pupils, it becomes us to inquire into the matter.

In order that anything be taught *well*, it seems necessary that it be thoroughly understood. Then, do we *understand* Geography? Not merely, do we know where Cape Cod is, what is the capital of China, or which way the river Nile flows, but are we able to go behind these facts and see the *world?* Are we familiar with its construction, its various modifications of surface, their probable causes, their continual results? Have we studied cause and effect, so that we know *why* many things are as they are, and how the complicated machinery of terrestrial creation acts and reacts to produce those phenomena which are daily witnessed? Can we link together the facts ascertained with regard to our earth and its inhabitants, and form a chain by which we can hold whatever is already known at our command, and to which we can add link after link of knowledge, as we find the metal whereof to make it? Are our minds like full fountains, whose waters overflow at the disturbing touch of only a childish finger?

And further, do we understand *ourselves* and our *pupils?* Do we know what we can do, and in what way we intend to do it? Is the general "programme" of the Geography course all marked out before us, so that as we become acquainted with the minds of our pupils, we can at once find their place and set them at work on the portion for which their present knowledge and development are best fitted?

There is much in following a *plan* in everything, and much in adapting the details of the plan to circumstances; nowhere more than in Geographical studies. Do we not sometimes fail here? Entering the school-room with no definite purpose, no idea of what shall be first done, we depend on chance, and give a lesson at random; it is learned as it is given; scholar and teacher plod on through the weary book, utterly disgusted with the whole matter, so unsatisfactory are the results. Is it to be wondered at?

And if, by our knowledge of Geography, scholars, and selves, we are tolerably well prepared to teach the first to the second, are we *progressive* enough? Is the science to us, an *unlimited* one? Whether we, in our little school-rooms, know it or not, the world is moving on. Nations fight, conquer and fall; cities rise, flourish, decay; men live, act, and die; every day there is a discovery in nature, science, or art, a new and wonderful invention, there is some mountain scaled, sea sounded, mine opened, or dry old bone exhumed. Travelers are making wide and curious researches; Commerce is spreading farther her domain; railroads and telegraphs are making

nations next-door neighbors, they are stretching over every land; while sails of stately ships "whiten every sea;" and all these things are *changing* the *world.* Shall we wait behind, content with knowing what our fathers knew, or our text-books tell us? Are we aware that the daily newspaper is one of the best text-books we can have, if we only know how to use it?

Why, we can make the earth grow real and vivid before the eyes of our pupils; we can awaken a spirit of inquiry in their minds that will never be satiated. It will seek and find, and seek again; it will grow strong and fruitful, as we, in our feeble beginnings, could never have imagined.

Shall we then call Geography dry, our books and maps worthless, our pupils stupid, when *we ourselves* are really the dry and worthless and stupid actors on this stage!

Let us rather strive to become fresh and vigorous and active; fitted to communicate our own *living spirit* to others. Let us *learn* to *teach* Geography.

NEW BRITAIN, April 27, 1854.

Resident Editor's Department.

OUR FREE SCHOOLS.

Keep them before the people! Why not keep them before the people? They are *for* the PEOPLE. They are the *people's college.* Our schools need some wholesome legislation. The people must demand it of their law-makers at New Haven. Keep the subject out of the whirlpool of politics, but *mark* the man who would deny the boon of a good education to the humblest child in the state. Let us unfurl our banner, and bear it aloft with this motto: "*Our schools: they must be made good enough for the richest, and cheap enough for the poorest.*" Connecticut must be redeemed; she must come forward into the front rank where she once stood, and where she belongs. The legislators, the people and the teachers, must form one solid phalanx, and move forward with a certain, *cautious boldness,* conquering and to conquer, till the victory is achieved.

The attitude of the press of this state, with reference to the improvement of schools, is an encouraging omen. Most of the papers give their readers a weekly supply of educational matter. Some

have an educational column: why not all? What subject is of more vital importance to the community?

The following stirring appeal we cut from the "Union."

"A work of great importance before our next legislature, is that of placing the COMMON SCHOOLS of Connecticut on a solid and firm foundation. Connecticut ought to have the best free schools in the world. It is idle to talk of the magnificent fund of the state. It is easy to lift it off. Let the next legislature just follow up the recommendations of democratic governors and commissioners of the school-fund, and *tax the property of the state so that each town shall raise by tax as much as is drawn from the fund*, and the entering wedge is fairly fixed.

"Let no rich, crusty old bachelor make up wry faces at this proposition, and fret about being 'taxed to support other people's children.'

"This tax is the best insurance on his property which the legislature can secure. If he is not satisfied with that, he need not think it strange if all the boys and girls of the state petition to have a poll tax laid on him in addition.

"This tax for the schools should be a rallying point for all the educational forces in the state. The two candidates for governor, if both try their hands, may well vie with each other for the best message in favor of this measure. Let the Teachers' Association and the thousands of teachers scattered over the state, back up the message with resolute good-will.

"Let all the scholars and their mothers pour in their petitions for this measure, as the next order of the day after the MAINE LAW.

"Let democrats, whigs and free-soilers in the legislature outdo each other in winning the honor of this measure, and let all the people say AMEN."

HOW THEY DO IT IN MASSACHUSETTS.

FROM THE RECENT REPORT OF THE MASS. BOARD OF EDUCATION.

"THE following school returns furnish decisive evidence of the continued advance of our common school system, in proportion to our increasing population and wealth; and nothing shows more conclusively the interest of a people in any public object, or their real estimate of its value, than the amount of money they regularly pay

for its support through voluntary taxation. Tried by this rule there can be no general diminution of interest or sense of failure in respect to our public schools: they have been sustained with increasing liberality. The amount of money by tax for the support of schools during the past year, was larger than in any previous year by more than $50,000.

"The aggregate of appropriations by all the cities and towns of money raised by taxes for the school year of 1851–2, was $910,216; for the school year of 1852–3, the aggregate was $963,631, an increase of $53,415 in a single year.

"The amount raised by tax for the school year of 1842–3 was $510,590; the amount for the last year was $963,631, an increase of $453,041, or nearly eighty-nine per cent. in ten years.

"The average increase for ten years past of appropriations of school money raised by tax, has been $45,304 per year.

"The sum raised for 1842–3 was an average to each person of the whole population, according to the census of 1840, of sixty-nine cents, while the sum raised for 1852–3 was an average to each person of the population, according to the census of 1850, of ninety-seven cents—an advance of twenty-eight cents to every man, woman and child in the state.

"The population of the state from 1840 to 1850 increased thirty-five per cent., while the increase of appropriations for the last ten years has been eighty-nine per cent."

CONNECTICUT TEACHERS' ASSOCIATION.

A SEMI-ANNUAL meeting of the Association will be held in New Haven on Tuesday and Wednesday, the 9th and 10th of May.

TUESDAY.

The Association will meet on Tuesday, at 2 P. M., for the transaction of preliminary business, and to hear reports from committees appointed at the last meeting.

At 3 P. M. a lecture will be delivered by W. C. Goldthwait, Esq., of Westfield, Mass. Subject, "Permanent Results."

At 4 P. M., Discussion of topics suggested by the lecture, or of others which may be presented.

At 7½ P. M., a lecture will be delivered by Rev. G. W. Perkins,

of Meriden. Subject, "The true aim and methods of Education, as deduced from the plans of God, the great Educator."

At 8½, Reports and remarks on Common Schools.

WEDNESDAY.

At 9 A. M., Discussion of Methods of Instruction.

At 10 A. M., Address by Henry Barnard, LL. D., Superintendent of Common Schools.

At 11 A. M., Discussion of topics suggested by the address.

The afternoon will be devoted to remarks and short addresses on the condition and improvement of our system of schools, by eminent speakers, who have been invited to be present.

At 7½ P. M., Address by Hon. Francis Gillette, of Hartford.

We are assured that the hospitality of New Haven will provide accommodations, free of expense, for ladies who may attend.

JOHN D. PHILBRICK,

For the Committee of Arrangements.

New Britain, April 26, 1854.

THE STATE NORMAL SCHOOL.

The next term of this institution will commence on the *third* Wednesday of the present month (May) and continue twelve weeks.

Pupils are expected to enter at the beginning of the term, and remain till the close. There is no charge for tuition. The price of board is $2.50 per week for males, and $2.25 for females. Persons intending to enter the school, and members who expect to return, should notify the Principal at New Britain, at as early a day as is convenient, so that accommodations may be provided for them.

Applications for first class Normal Teachers continue to be much more numerous than can be supplied. Those who stand highest in scholarship and skill in teaching, have the preference. One short term is not sufficient to make a good Normal Teacher.

The New Britain High School affords excellent advantages for such as wish to fit themselves for admission to the Normal School.

NOTICES OF BOOKS.

National Education in Europe. By HENRY BARNARD, LL. D., Superintendent of Common Schools in Connecticut.

The late hour at which Henry Barnard's noble volume, ***Education in Europe***, was put into our hands, forbade more than the briefest allusion to its nature, in our last. The volume, it will be remembered, occupies nearly 900 pages, and through the liberality of some one, its author, we suspect, the first edition of 3000 copies is given to school districts and friends of education generally, at the nominal price of $1.00 per copy, which is less than half its cost. It is an enlargement of a volume on Normal Schools and other agencies for the education of teachers, prepared from European observation in 1836, and documents subsequently collected, and published in 1851. It embraces full accounts of the school systems of nearly every country in Europe, especially of the Prussian and German systems. In addition to the common schools, it takes up the Normal, Reform, Evening, Ragged, Sunday and Agricultural Schools, the Schools of Art and Design, and in brief, everything at all answering to the designation of school, whether designed to communicate instruction to the scholar *per se*, or to the scholar preparing himself as an instructor. We know of no work in the English language, so fully deserving the teacher's perusal, or so likely to repay it in the enlargement of his practical school-room knowledge, as is this, for no book, in our knowledge, is more fully a record of educational experience. We have only to add our wish that it may receive a liberal welcome from the friends of education, not in Connecticut only, but wherever the English language is spoken. We believe that it is destined to be one of the Educational classics of the times. Published and sold by F. B. Perkins, Hartford, or to be had of William Foster, Jr., who is now canvassing this county for the purpose of introducing the book to the acquaintance of school committees and school districts.

Windham Co. Tel.

Outlines of Universal History, from the Creation of the World to the Present Time. By Dr. GEORGE WEBBER, Professor and Director of the High School of Heidelberg. Revised and corrected, with the addition of a History of the United States of America, by FRANCIS BOWEN, A. M., Professor in Harvard College. Royal octavo, 559 pp. Published by Jenks, Hickling & Swan, 131 Washington street, Boston.

We feel justified in speaking of this work in strong terms of praise. With wonderful success has this gifted and learned author applied the principles of historical perspective to the annals of the world. Though a vast multitude of objects are introduced to the attention of the reader, there is not the least indistinctness or confusion. All is harmony and order. Every event brought to notice, is made to occupy its proper place and fill its just proportion of space. The faithful student of this work can not fail to reap a rich harvest of historical lore; and what is far better, he will almost necessarily become imbued with the true historic spirit.